EXHIBIT 11
FILED UNDER SEAL

**DoubleClick
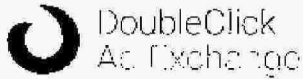Ad Exchange**

UPDATE:
03/23/2018: Starting on April 30th 2018, we are expanding optimized pricing to Optimized Private Auctions.

Update:
05/09/16: A decision has been made to refer to this feature as Optimized pricing in the upcoming <u>blog post</u>.

05/03/16: Comms doc was locked down due to legal and marketing review. There is sensitive information contained within this doc. Please follow all instructions in terms of what information can be shared and how.

04/25/2016: News about the upcoming blog post mentioning optimized pricing in the open auction and <u>OPA</u> and updated TALKING POINTS and FAQs to manage comms with pubs and buyers.

Optimized pricing in the Open Auction Comms

(go/rpo-comms)
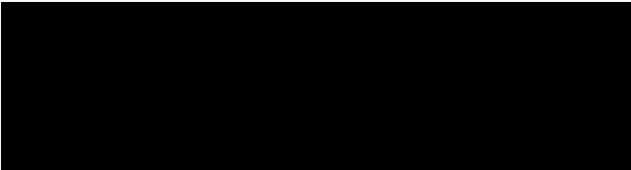
Complexity B
Authors: ▮▮▮▮
Last Updated: 05/09/16

Optimized pricing in the Open Auction will be announced, along with OPA, in a blog post on May 12, 2016. Context on why these features are being bundled together:

Our goal has always been to help publishers thrive and create sustainable businesses with advertising: to earn the most money possible, with the least complexity, all while providing users the best experience. We're announcing two new yield management features for DoubleClick Ad Exchange -- Optimized Private Auctions and optimized pricing in the Open Auction.

For many years Google has used optimization and machine learning techniques to improve the performance of our ads products, and now we're happy to say we've been extending those techniques to DoubleClick Ad Exchange customers. These new features will help our publisher partners grow their revenue and give programmatic buyers greater access to premium inventory.

[OPA comms doc, blogpost]

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Description	**Optimized pricing in the Open Auction** automates the post-auction analysis and floor price updates that publishers are already doing and takes it a step further. Not only does our technology use signals like ad unit, geography, and operating system, it also creates audience-based floors on specific audiences, so publishers can capture fair value for building great consumer relationships. Optimized pricing can only increase floors from where the publisher has them currently set. It will never lower a floor. This affects all pubs using AdX, AdSense and AdMob.
Value Proposition	Open auctions tend to have a large price gap between what a buyer bids, and what they pay. As result, publishers have created complex systems of publisher-set floors to close the gap. Unfortunately, these floors are hard to calculate manually, requiring ad ops teams to spend countless hours gathering data and running post-auction analysis to update pricing and priorities in their system. Some publishers have even resorted to more extreme methods like waterfalls between exchanges, which introduces latency that damages consumer experience and advertiser performance. And even with all this effort, there is still a wide and persistent price gap between the bid and closing prices in the open auction across all our publishers. We think there is a better way. Optimized pricing effectively reduces the gap between the first price and closing price increasing publisher yield. Optimized pricing could encourage publishers to make more inventory accessible to the open auction as well as reduce complex setups with varying ad server priority and floor prices
Status	**Internal only until blog post on May 12, 2016.** http://doubleclickpublishers.blogspot.com/2016/05/smarter-optimizations-to-support.html
Meeting Day/Time	DRX Indirect Comms (Mondays 11:30 am ET)
Meeting Notes Link	go/DRXindirectnotes
Communication	**See Resources section below...** **Related Note:** We communicated to all of our publishers and buyers in August 2014 that we are working on auction changes, and updated the HC accordingly (comms doc).
Project Contacts	

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Contents

Important Links
- Training docs: N/A
- Marketing: Blog Post
- PRD

Value Proposition, Publisher Impact & Benefits	Owner: Marketing

1. Value Proposition

- Optimized pricing effectively reduces the gap between the first price and closing price increasing publisher yield.
- Open auctions tend to have a large price gap between what a buyer bids, and what they pay. As result, publishers have created complex systems of publisher-set floors to close the gap. Unfortunately, these floors are hard to calculate manually, requiring ad ops teams to spend countless hours gathering data and running post-auction analysis to update pricing and priorities in their system. Some publishers have even resorted to more extreme methods like waterfalls between exchanges, which introduces latency that damages consumer experience and advertiser performance. And even with all this effort, there is still a wide and persistent price gap between the bid and closing prices in the open auction across all our publishers. We think there is a better way.
- Optimized pricing could encourage publishers to make more inventory accessible to the open auction as well as reduce complex setups with varying ad server priority and floor prices

Product Overview	Owner: PM

2. Description and Features
- How it works
  - Optimized pricing in the Open Auction automates the post-auction analysis and floor price updates that publishers are already doing and takes it a step further. Not only does our technology use signals like ad unit, geography, and operating system, it also creates audience-based floors on specific audiences, so publishers can capture fair value for building great consumer relationships.

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- o Respects all existing floors set by the publisher, optimized pricing will never set a price below an existing floor
- o Revenue increases because an intelligently dynamic price reduces the gap between highest bid and pub payout
- o The publisher does not get any new controls or and opt out and the feature works only in the background
- o No reporting other than existing means ██████████████████████████ ██████████████████████████████
- o The feature is not directly visible externally. Buyers may observe changes in branded mins and we will monitor how they react.
- o Deals (PA/PD) are not affected
- Impact
  - o Affects all pubs where RTB buyers can spend (AdMob, AdSense, AdX)

Commented [1]: +████@google.com Is there a max % we increase the floor with? Or do we increase it as much as possible- as long as there is no negative feedback from the buyers.

Commented [2]: Based on previous discussions I don't think we want to get into this kind of specifics. Suffice to say that we're monitoring the impact and we expect that there will be a balance between publishers' revenue and advertisers' ROI - both have to be compelling for the market to work.

Sales & Services	Owner: gTech + RPS

3. Feature Enablement

There will be ██████████ t a ████████████████████████ for all publishers.
There is **no opt-out**. However, if you notice a negative revenue impact, check the underlined escalation process.

4. Escalation process / Services Support

- Escalation process
  - o In some marginal cases, the optimized pricing impact can be negative.
  - o For TAMs, please first check the Impact Dashboard **but DO NOT COMMUNICATE any impact externally**
  - o **If, and only if your partner has a negative impact in revenue** ██████████ ██████████████████████
    - ■ ██████████████████████

Resources	Owner: Commercialization Lead

5. EXTERNAL EMAIL REACTIVE MESSAGE (ONLY TO BE USED REACTIVELY)

For reactive use in email to customers (buy and sell), up to point of marketing announcements (NOT TO BE USED YET):

> *"Our goal has always been to help publishers and buyers thrive and create sustainable businesses with advertising. Programmatic buying is constantly evolving and changing the way buyers and sellers interact. As a technology provider for both buyers and sellers in the market, we're committed to helping the industry evolve while maintaining a healthy and growing programmatic ecosystem.*

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A big part of the programmatic world is the Open Auction where any buyer & seller can participate. Publishers spend countless hours gathering data and running post-auction analysis to update Open Auction pricing and priorities across their inventory. So in recent months, we've been working on optimized pricing technology that algorithmically sets floor prices in the Open Auction to increase publisher revenue. With optimized pricing, we use event level data available from previous auctions to predict what the bids will be on certain queries, and adjust the floor price accordingly on behalf of the publisher, subject to their settings.

We're constantly working to improve our Open Auction to benefit the ecosystem as a whole by maximizing publisher revenues and optimizing buyer return on investment. For many years Google has used optimization and machine learning techniques to improve the performance of all our ads products, and optimized pricing is just one example of how we're extending these techniques to DoubleClick Ad Exchange."

6. EXTERNAL, VERBAL ONLY, TALKING POINTS (<u>DO NOT EMAIL</u> - FOR BOTH BUY AND SELL)

- <u>Optimized pricing in the open auction helps publishers more efficiently price inventory and improve their yield by automating the post-auction analysis they're already doing</u>
  - On the Doubleclick Ad Exchange's Open Auction, buyers pay ██████████ of what they bid, on average. For example, in the typical AdX auction where a buyer bids $5, the median amount paid is ██████ If a publisher was able to determine when a particular query may receive a $5 bid, the publisher would set the reserve price nearer to $5 to increase yield.
  - Big differences between buyer bids and pub payouts - a high "auction discount" - means lower yield for publishers. This leads to pubs not making inventory available in the Open Auction, or setting static floors too high, which limits inventory access for Open Auction buyers.
  - Because of high discounts in the Open Auction, publishers will try to extract more value from bids through multiple exchanges sequenced in a waterfall. This in turn leads to buyers seeing the query multiple times at different prices. It also increases end user latency, which decreases ad engagement resulting in lower buyer ROI.
  - Manually calculating reserve prices that maximize yield is hard for publishers to do effectively.
  - Optimized pricing is a progression of the manual or semi-automated methods pubs already use, or pay third parties to employ, in order to set Open Auction floor prices. We believe this helps the whole marketplace by increasing publisher yield and protecting buyers and consumers from inefficient, high latency waterfall methods.
- <u>The AdX Auction model is 2nd price, as described in the Help Center</u>

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- ○ AdX runs a second price auction where the winner is the highest bid and the price is the larger of the 2nd bid and the floor price. In other words, the transaction price equals the price to beat to win the auction. This price is independent of the winner's bids. The auction is described in our <u>Auction Model</u> article.
- <u>AdX optimized pricing is not soft floors</u>
  - ○ As described above, with a prediction system like AdX's optimized pricing, the price a buyer pays is not related to the bid in the present auction. With a soft floor, the price is derived directly from the bid. Prediction systems can never use all the information a buyer has to up to the most recent query. A predicted price also functions the same as a manually set one, and when set too high, there may be no auction winner. By comparison, a publisher strategy with multiple exchanges at different floors functions as a kind of soft floor.
- <u>AdX optimized pricing uses all event level AdX data</u>
  - ○ To price as intelligently as possible, all event level data from past Open Auctions may be considered (subject to contract terms). This means a buyer's historic bids may be used as part of the prediction model to set a price for them.
  - ○ Please note inputs to optimized pricing remain confidential to the buyer per the contract.

7. EXTERNAL, VERBAL ONLY, REACTIVE FAQs (**DO NOT EMAIL**, DO NOT OFFER THESE POINTS UNLESS ASKED)
- <u>Buyer FAQ</u>
- <u>Publisher FAQ</u>

****If any new questions come up following the blog post from either buyers or publishers, please enter them into **this form** and we will get back to you shortly.****

<u>FOR BUYERS - EXTERNAL, VERBAL ONLY, REACTIVE FAQs:</u>

Q: How does this change things for me as an Open Auction buyer? Should I adjust my bidding algorithm?
A: Ensure you're always bidding the value of the auction to you.

Q: You previously took a stand against any deviation from a pure second price auction. What changed?
A: We saw publishers trying to manually set Open Auction floor prices in a suboptimal way that hurt both buyers and sellers, so we created automated tools to help them while avoiding "soft floors" << also see note about 2nd price auction >>

Q: Will I have any way of knowing when the floor price I pay is set by this optimization?
A: Not at this time. Note also that you don't know today whether the floor price you pay was set by a competing bid, a contending booking from DFP, or a publisher-set floor price. So we are not reducing transparency.

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Q: How does the optimized pricing algorithm work?
A: The algorithm uses bidding and transaction data from previous auctions to predict what the bids are likely to be on certain segments of inventory, and adjusts the floor price accordingly on behalf of the publisher, subject to their settings.

Q: How does Google's optimized pricing compare to similar offerings by other exchanges?
A: We cannot comment on how other exchanges do optimized pricing.

Q: Can buyers opt out?
A: There is no opt out for buyers on AdX from optimized pricing in the Open Auction. If you wish to avoid optimized pricing, you can work with publishers to buy through PA/PD/PG.

Q: Does optimized pricing apply to all buyers in the AdX Open Auction, including AdWords?
A: All Open Auction buyers on AdX, including AdWords, are subject to optimized pricing, there is no opt out.

Q: How much more am I charged?
A: Optimized pricing has no effect on most Open Auction queries - right now it affects the winning price for fewer than ███ of impressions bought by RTB buyers. We expect that over time, the effect will observed by buyers in the same way you would notice any individual publisher getting more efficient in setting floor prices for valuable inventory. That would be observable to you as a potential change in your ROI. Since maximizing pub revenue also requires delivering compelling ROI for buyers, we expect there will be a natural feedback loop ensuring dynamic prices do not rise beyond what the market will bear.

Q: We currently send buyers the publisher's floor price in the bid request - will we be sending the dynamic floor price?
A: We will send out the floor price as usual when an auction floor is set by optimized pricing.

Q: Will "bid below minimum threshold" (bid below floor price) be a PFBR metric for not respecting the dynamic floor price?
A: Yes, floor prices set dynamically will be reported in the same way as other floor prices.

Q: As a best practice, should we recommend buyers use RTF to better understand the winning prices?
A: We can't recommend specific bidding behavior, but buyers can use RTF to evaluate how they could improve their win rate.

Q:How long has Google been running this feature and on what percentage of inventory?

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A: We can't give specifics about the experiment, but we've thoroughly tested it over a long period of time and are confident that it will help our publisher partners grow their revenue and give programmatic buyers greater access to premium inventory

Q: Why will the dynamic floor be different for each buyer in some cases?
A: Many publishers are setting buyer-level floors in AdX today, and we can improve efficiency by automating that process.

Q: Will the algorithm calculate floors for buyers based on their cleared CPMs or bid CPMs for the pub on that inventory?
A: All event level data from past Open Auctions may be considered (subject to contract terms).

Q: Will the algorithm caused pub floors to change hourly/daily/weekly? Any indication on frequency will be helpful.
A: We currently update floors on a ██████████ but this is subject to change.

Q: Does this mean that Buyer bidding behavior will be analyzed and used to set price floors on an individual Buyer level?
A: Yes, Optimized pricing may set different floors for each buyer. However, it is not a soft floor because only historical bids are analyzed - we do not use the bids in the auction to set the floor.

Q: Do we only consider the buyer's past bidding behaviour in the open auction on a publisher or do we also use past bids from deals?
A: Only open auction bids are evaluated, we do not use bids from deals.

Q: Will bid anomalies (potential bid price errors) be removed from historical consideration?
 A: The algorithm uses aggregate data and controls for statistical significance - outlier bids will not result in inaccurate floor prices.

Q: How many days of historical data will be taken into account when determining the floor price?
A: The algorithm will analyze as much historical data as needed to improve predictions.
████████████████████████████ but this is subject to change.

Q: On what level of granularity does optimized pricing calculate a per-buyer floor - seat level or buyer level?
A: Optimized pricing has the ability to set a floor price at the seat level.

<u>FOR PUBLISHERS - EXTERNAL, **VERBAL ONLY**, FAQs:</u>

Q: How should publishers rethink their current floor price strategy?

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A: Open Auction floors should reflect the minimum you are willing to sell inventory for, optimized pricing will take care of the rest. If you were previously adjusting prices regularly to try to extract more yield, this is no longer needed. We recommend setting the minimum price on any inventory to where you feel comfortable selling it in the Open Auction.

Q: Do publishers have any control over how the reserve prices are set?
A: Publishers can still use AdX rules to set Open Auction floor prices, and optimized pricing will not lower these. We only raise floors when we estimate it will increase your overall revenue.

Q: Does this impact Preferred Deals and Private Auctions and Programmatic Guarantees?
A: *[Updated 3/23/2018]* Historically optimized pricing was limited to the Open Auction. Starting on April 30th 2018, we are expanding optimized pricing to optimized private auctions. Following tis change, optimized pricing will still not apply to non-optimized Private Auctions, Preferred Deals and Programmatic Guaranteed.

Q: Does this apply to DFP First Look (DFL)?
A: Yes, optimized pricing is applied to DFL where there is opportunity to maximize revenue.

Q: Does this work for AdX-only pubs?
A: Yes.

Q: Does this work for AdSense and AdMob?
A: Yes, optimized pricing increases yield for AdSense and AdMob pubs.

Q: How can I see the impact on my revenue? How much more revenue am I making thanks to this feature?
A: Since optimized pricing currently affects winning prices for fewer than ▮▮▮ of impressions from RTB buyers in the Open Auction, there will not be an obvious impact on any one publisher above the background noise of varying buyer demand. We are constantly developing automated auction improvements with the intention of making them a core part of our platform. Our goals is that you observe a long term improvement in yield when using the AdX Open Auction.

Q: Why is optimized pricing revenue impact not included in reporting?
A: (see above)

Q: My match rate has gone down, is that because of this feature?
A: Optimized pricing in the Open Auction affects fewer than ▮▮▮ of impressions from RTB buyers today, so any single change you see is very unlikely to be caused by this. In general, optimized pricing aims to maximize revenue, not match rate, so it is possible that in some cases the result will be a higher eCPM but slightly lower match rate in the Open Auction. This is ultimately beneficial to you, since more revenue from fewer queries allows you to generate other

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ad revenue, run more house ads, or even reduce the number of ads you serve to improve consumer experience.

Q: I want to opt-out.
A: Due to the huge promise of optimized pricing to increase publisher revenues over time, we made the decision to include it as a standard part of the Ad Exchange Open Auction, and do not offer an opt-out. You could protect buyers from the effect of optimized pricing by moving them into a non-optimized Private Auction, Preferred Deal, or Programmatic Guarantee.
We understand that this is a change to our Open Auction product, and encourage all feedback - please contact your account teams with questions and concerns.

Q: Where can I configure it?
A: As part of our ongoing Open Auction improvements, we aim to provide an automated yield maximization system and do not offer configurations for optimized pricing. We monitor revenue, match rate and buyer impact carefully to make sure revenue goes up with limited impact on match rate and no longer term shifts in buyer behavior occur.

Q: "It's causing issues on my inventory" <<expecting various on this questions >>
A: Optimized pricing has been extensively tested on fractions of traffic. We take extra care to ensure you get the most revenue out your inventory. For example, we monitor revenue, match rate and buyer impact carefully to make sure revenue goes up with limited impact on match rate and no longer term shifts in buyer behavior occur. If you believe you are seeing delivery problems, please file a ticket through usual channels.

Q: "My inventory is special - optimized pricing won't work"
A: Optimized pricing uses machine learning to understand traffic patterns among different targeting dimensions, which makes it adaptable to any type of inventory. We ensure the models are efficient and produce revenue increases while limiting match rate decreases. Where optimized pricing cannot deliver benefit, the algorithm simply leaves floors unchanged.

Q: If you raise the price my buyers pay, it will lower their ROI and they will spend less on my inventory. Won't this cost me money in the long run?
A: Google optimization technology considers advertiser ROI as well as publisher payouts. We monitor revenue, match rate and buyer impact carefully to make sure Open Auction revenue goes up with limited impact on match rate and no longer term shifts in buyer behavior occur. We have found over the years with AdWords and AdSense that it is possible to grow both, and we are optimistic that we will have the same results with the Ad Exchange Open Auction. Ultimately, if required, you could protect buyers from the effect of optimized pricing by moving them into a non-optimized Private Auction, Preferred Deal, or Programmatic Guarantee.

Q: The comms doc says to avoid Optimized pricing opt a buyer into a PA/PD/PG. Shouldn't PA be removed as an option as OPA will essentially do the same thing as Optimized pricing?

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A: OPA does not do anything with floor prices, it introduces competition between OA bids and PA bids. A buyer responding to a Deal ID in an OPA will be subject to the PA floor, not a optimized price floor as in the OA.

Q: Does optimized pricing account for seasonal trends?
A: The algorithm will analyze as much historical data as needed to improve predictions. Currently a day's worth of data is used and so seasonal trends are not accounted for, but this is under constant experimentation and subject to change.

Q: For an AdSense or Admob publisher, does Optimized Pricing apply for all buyers including AdWords or only to 3rd party RTB Buyers?
A: Optimized Pricing applies to any source of inventory that 3rd party RTB buyers or AdWords can buy.

Q: Is there any plan to extend access to the impact dashboard to PSI Level?
A: No. The only impact dashboard that exists is for debugging purposes. However, in the past year that it's been in experiment, no RPO-related escalation were detected/filed.

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